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NHTSA-02-13546-46

February 20, 2003

Docket Management Room PL-401
400 Seventh Street, SW
Washington, D.C. 20590

Re: Docket # NHTSA-02-13546 Event Data Recorders

This letter is in response to your request for comments on the Event Data Recorders. The National Association of EMS Physicians is quite pleased that NHTSA is investigating these issues and has asked for comment from a broad range of users. EMS physicians use motor vehicle crash information every day in order to make important EMS system and clinical decisions.

Our comments are enclosed. We look forward to the opportunity to discuss this with you in the future.

Sincerely yours,

Robert Bass, MD, FACEP
President

NAEMSP Comments
Docket # NHTSA-02-13546
Request for Comment on Event Data Recorders

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The National Association of EMS Physicians (NAEMSP) is a national organization of physicians and other professionals who provide leadership and foster excellence in out-of-hospital emergency medical services. As part of its ongoing commitment to improving out-of-hospital emergency medical care, the NAEMSP promotes meetings, research, publications and products that connect, serve and educate its members. In addition, the association acts as a resource and advocate of EMS-related decisions in cooperation with organizations throughout the country and the community at large, including agencies of the federal government. It is the continuing role of the NAEMSP to coordinate and focus advances in medical care, research and training related to EMS.

Comments on EMS and Emerging Technologies

NAEMSP was a leader in creating the *EMS Agenda for the Future*, which proposed a vision for EMS in the years ahead. EMS of the future will be a community-based health management system that is integrated with the overall health care system, public health and public safety agencies. EMS will remain the public's emergency medical safety net.

To realize the vision of the *EMS for the Future*, 14 required EMS attributes were identified. Among them are prevention, communication systems, information systems, evaluation, and integration of health services. Implementation of this vision falls into three major categories: building bridges among isolated disciplines; creating tools and resources to facilitate growth and development of new roles and competencies; and developing infrastructure to facilitate access, communications, and information sharing, and interoperability between EMS and its new partners.

The emergence of digital crash data plays a strong role in the development and integration of emergency medical service systems. For example, there is heightened awareness of the complexity of managing the response of a crash involving hazardous materials. Yet, in today's world, the links between transportation, public safety, and emergency responders are hampered by lack of communications, information sharing and interoperability. The development of a standardized minimum data set of crash information dramatically affects the ability to enhance and integrate a coordinated response.

A few months ago, the Medical Subcommittee of the ITS America Public Safety Advisory Group released Recommendations for ITS Technologies and Emergency Medicine Services to provide recommendations regarding future emergency medical service-related activities to the Department of Transportation and ITS providers.

While ITS Technologies have the potential to provide more efficient, effective emergency medical services and safer, more secure highways, these benefits cannot be realized without immediate and substantive input from prospective end users in the EMS community. The EMS community currently is facing serious challenges because new telecommunications and end vehicle technologies have entered the market without sufficient development input from

EMS physicians and other professionals. Several of the report recommendations are germane to this request for comments. In particular, emergency medical services systems require:

- A minimum data set of accurate crash data that provides location and severity of the crash information;
- Real time, cross agency voice and data communications networks that allow responders from different departments and units to communicate with each other more effectively;
- Traffic signal priority and route guidance systems that help move emergency vehicles through evermore congested roadways;
- Automatic Collision Notification systems that contact emergency centers immediately upon a vehicles impact, providing instant location information, evolving to provide data related to crash severity and likely passenger injuries to both emergency responders and hospital or trauma centers.
- Development of technical standards for telematics procedures and automatic crash notification systems to promote rapid implementation for life saving technologies;
- Integration of ITS technology into existing emergency management systems and formation of ongoing operational partnerships and real-time communications network connecting all emergency responders- including at a minimum EMS providers, transportation agencies, law enforcement agencies and emergency management agencies.

In the aftermath of September 11 and with the growth of intelligent transportation systems, this integration and coordination between public safety, EMS, and ITS technologies is more important than ever before.

Comments on Event Data Recorders and Crash Data

The NAEMSP strongly believes that EDRs have the potential to improve highway safety and emergency medical services. Crash information is used on a daily basis by emergency responders in order to make important life saving decisions regarding emergency response and transport, clinical care, and systems resources. Most of this information is subjective in nature, creating inefficiencies in a system that is already over-worked. In addition, the lack of accurate crash information inhibits the ability of EMS administrators and researchers to continuously improve injury prediction criteria.

Motor vehicle injuries are the leading cause of death to Americans under the age of 34 years old. Each and every day, EMS responders must care for thousands of injured crash victims. Each year over 42,000 people die and 3million are injured on our nations highways. Many of those who are injured suffer a lifelong disability. In fact, motor vehicle injuries are the leading cause of long-term serious head and spinal injury.

EMS systems strive to rapidly respond to serious crashes, matching the resources needed with the severity of the crash. Unfortunately, this goal is often undermined by the delays in notification and the subjectivity of the information regarding the crash. Replacing subjective crash information with measured vehicle data will have numerous positive effects on the

safety of the public. Better information will mean better decisions made by EMS administrators, clinical providers, researchers, and policymakers.

The crash severity and direction of impact plays a major role in the allocation of emergency medical service resources. This information, together, is used to predict the likelihood of injury and the patterns of injury received by crash victims. Dispatchers use initially reported crash information to determine dispatch priority and number and level of resources sent to the scene. Once at the scene of a crash, EMS providers must rapidly determine the likelihood for serious injury based upon injury criteria: anatomic injury, physiologic criteria, or mechanism of injury (MOI). Mechanism of injury essentially is the best guess of what happened in a crash. That "mechanism" is utilized as a proxy for the energy release of a crash. In today's world, by far the vast majority of patients sent to specialized trauma resources are based upon mechanism of injury criteria. Unfortunately, due to the subjective nature of that information, most patients are over triaged, that is, the patients are sent to higher level resources than actually necessary in order to ensure that the patient's needs are met. In contrast, because some crashes are more severe than observation of the vehicle or patient reveals, other patients may be "under triaged".

Better, more accurate, objective information will allow EMS systems, trauma systems and EMS providers to continually improve injury prediction criteria. This will make the system more efficient, less costly and better-matched system resources with patient needs. In addition, epidemiologist, traffic safety professionals, healthcare providers, and EMS researchers will have improved vehicle data for analysis. This will allow the creation and development of new insights and knowledge regarding motor vehicle injuries.

Location information is critically important to a rapid response. In essence, emergency responders cannot find you if they do not know where you are. For this reason, NAEMSP and others have strongly supported the move toward location-based wireless E911. A future safety benefit of a standardized minimum data set of crash information, including location, is that automatic collision notification may become widely deployed by simply adding vehicle location information into the existing EMS infrastructure.

Vehicle crash information can and should be readily available by EMS responders at the scene through a simple plug-in or electronic interrogation of the memory module. Our understanding is that the Institute of Electrical and Electronic Engineers (IEEE) is currently defining protocols for EDR crash data collection, storage and export protocols. While that standards process does not prescribe which specific data element should be recorded, it is important to note that a standardization of a minimum data set as noted above would provide great benefits in a short period of time. Minimum data for EMS response includes location, crash severity, direction of force, and use/deployment of safety devices.

The Crash Outcome Data Estimate System (CODES) has now linked police crash records with hospital records in over 26 states to better look at how crashes may be prevented, what the severity of these crashes are, and their associated health care costs. EMS data has been found to be a critical component of data linkage. Objective measured vehicle data will improve both data linkage and the quality of data systems created at the local and state levels.

As EMS providers implement better diagnostic and therapeutic decisions in less amounts of time, more rapidly locate and respond to severe auto crashes, and improve the trauma triage and transport of patients, mortality rates and the severity of injury to victims of motor vehicles crashes will be decreased.

The National Highway Traffic Safety Administration is to be commended for its leadership both in emergency medical services and in vehicle safety. The growth of technology into the vehicle fleet has provided significant opportunities for improving safety, saving lives and preventing injuries. The National Association of EMS Physicians strongly believes that NHTSA should maintain its leadership role on these issues and strongly supports the development of EDRs and data elements with NHTSA and other partners in traffic safety.